

combination of Miyakawa, Kurihara, Babayan, Mori, Kawase, Seki and Inoue. The rejections are traversed for the reasons advanced in detail below.

As stated in MPEP §§ 2142-2144.04, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

There is no proper or sufficient reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Miyakawa, Kurihara, Babayan, Mori, Kawase, Seki and Inoue or to combine reference teachings to achieve the claimed invention. MPEP § 2142 states that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. It is respectfully submitted that the Office Action has failed to carry this burden. While the Office Action relies on various teachings of the cited prior art to disclose aspects of the claimed invention and asserts that these aspects could be modified in the manner asserted in the Office Action, it is submitted that the Office Action does not adequately set forth why one of skill in the art would combine the references to achieve the features of the present invention.

Independent claims 1, 2, 4 and 5 recite, among other features, “after switching the first reactive gas to a second reactive gas, partially ashing the resist mask by discharging a plasma to the plasma treatment chamber from the plasma treatment means in the plasma treatment chamber at the pressure of 5 to 800 Torr from the second reactive gas introduced to the plasma treatment means.”

The Office Action concedes that “Miyakawa does not explicitly teach ashing the resist mask by partially blowing the second reactive gas in the plasma treatment chamber at the

pressure of 5 to 800 Torr” and that “Miyakawa ... is completely silent as to how the resist is removed” (page 3, Paper No. 20110302). The Office Action relies on Mori to allegedly teach “that it was well known plasma etching art ... to have removed a resist by ashing” and on Kawase to allegedly teach “that atmospheric plasma ashing was well known in the art” (*id.*). The Office Action asserts that “[b]ecause Mori and Kawase teach that such methods were operable, it would have been obvious to one of ordinary skill in the art at the time of invention to have removed the resist of Miyakawa using an atmospheric plasma etching method with a reasonable expectation of success” and that “[t]he selection of something based on its known suitability for its intended use has been held to support a prima facie case of obviousness” (*id.*; emphasis added). Applicant respectfully disagrees and traverses the above assertions in the Office Action.

The Office Action asserts that “Miyakawa teaches ... etching ... at about atmospheric pressure ... in a plasma treatment chamber” (page 2, *id.*) and that “Mori teaches that it was well known [in the] plasma etching art ... to have removed a resist by ashing” (page 3, *id.*). In contrast, Kawase fails to teach, either explicitly or inherently, or suggest that ashing is performed for removing a resist mask. Instead, Kawase appears to disclose the following (as shown in paragraph [0024]): “[T]he surface treatment includes treatment based on Oxygen (O₂) plasma ashing, atmospheric plasma ashing, or UV ashing. Consequently, the wettability of the delimiting member to the liquid material constituting the protective layer can be increased, and uneven application of the protective layer material can be prevented.”

Further, Kawase discloses that the present invention is directed to “surface-treating the surface of a bank-like delimiting member to decrease the repellency to a liquid material constituting a protective layer” (paragraph [0017]). Therefore, although Kawase may disclose the word “atmospheric plasma ashing,” Kawase appears to regard the feature “ashing” as meaning “surface-treating the surface of a bank-like delimiting member to decrease the repellency to a liquid material constituting a protective layer.” Accordingly, Miyakawa’s “etching ... at about atmospheric pressure ... in a plasma treatment chamber” and Mori’s “ashing” are absolutely different from Kawase’s “atmospheric plasma ashing.” Applicant respectfully submits that one of ordinary skill in the art at the time of the present invention would not have had a reason to modify Kawase’s “atmospheric plasma ashing,” which is apparently equivalent to “surface-treating the surface of a bank-like delimiting member to decrease the repellency to a liquid material constituting a protective layer,” based on Miyakawa’s “etching ... at about atmospheric pressure ... in a plasma treatment chamber”

and Mori's "ashing" or vice-versa (that is, Mori's ashing and Miyakawa's etching based on Kawase's ashing/surface-treating) in order to achieve the features of the present invention.

Therefore, Applicant respectfully submits that the Office Action has not provided a proper or sufficient reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Miyakawa, Kurihara, Babayan, Mori, Kawase, Seki and Inoue or to combine reference teachings to achieve the claimed invention.

In the present application, it is respectfully submitted that the prior art of record, either alone or in combination, does not expressly or impliedly suggest the claimed invention and the Office Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

For the reasons stated above, the Office Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Paragraph 8 of the Office Action rejects claims 4 and 6 under the doctrine of obviousness-type double patenting over the combination of claims 5, 10, 15, 19 and 23 of U.S. Patent No. 7,189,654 to Yamazaki with Kurihara and Babayan. Paragraph 9 of the Office Action rejects claims 1 and 9 under the doctrine of obviousness-type double patenting over the combination of claims 5, 10, 15, 19 and 23 of Yamazaki with Kurihara, Babayan and Seki. Paragraph 10 of the Office Action rejects claims 5, 7, 8 and 12 under the doctrine of obviousness-type double patenting over the combination of claims 5, 10, 15, 19 and 23 of Yamazaki with Kurihara, Babayan and Inoue. Paragraph 11 of the Office Action rejects claim 2 under the doctrine of obviousness-type double patenting over the combination of claims 5, 10, 15, 19 and 23 of Yamazaki with Kurihara, Babayan, Seki and Inoue. Applicant respectfully submits that the independent claims of the subject application are patentably distinct from the claims of Yamazaki, even when combined with the teachings of Kurihara, Babayan, Seki and Inoue.

As stated in MPEP § 804, under the heading "Obviousness-Type," in order to form an obviousness-type double patenting rejection, a claim in the present application must define an invention that is merely an obvious variation of an invention claimed in the prior art patent, and the claimed subject matter must not be patentably distinct from the subject matter claimed in a commonly owned patent.

Regarding the double patenting rejections, the arguments at pages 5-8 of the present Office Action are a verbatim duplicate of the arguments at pages 5-7 of the Office Action mailed October 21, 2010, and does not take into consideration the detailed arguments presented, for example, at pages 7-8 of the *Request for Reconsideration* filed January 21, 2011. These arguments are incorporated herein by reference.

Specifically, it appears that the Office Action fails to set forth detailed arguments as to how the features of the previously amended claims, that is “after switching the first reactive gas to a second reactive gas, partially ashing the resist mask by discharging a plasma to the plasma treatment chamber from the plasma treatment means in the plasma treatment chamber at the pressure of 5 to 800 Torr from the second reactive gas introduced to the plasma treatment means,” are rendered obvious in view of the claims of Yamazaki, when combined with Kurihara, Babayan, Seki and Inoue. Applicant respectfully submits that these features are not obvious in view of the alleged combination of the claims of the Yamazaki patent, Kurihara, Babayan, Seki and Inoue. If these rejections are to be maintained, Applicant respectfully requests that the Examiner provide a more detailed basis for maintaining the rejections.

It is respectfully submitted that the claims of the present application are not a timewise extension of the invention as claimed in the Yamazaki patent, either alone or in combination with Kurihara, Babayan, Seki and Inoue. Reconsideration and withdrawal of the obviousness-type double patenting rejections are requested.

In view of the foregoing, Applicant respectfully requests allowance of the instant application. If a conference would be helpful in expediting prosecution of the instant application, the Examiner is invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,

/Jeffrey L. Costellia, Reg. No. 35,483/
Jeffrey L. Costellia
Registration No. 35,483

NIXON PEABODY LLP
CUSTOMER NO.: 22204
401 9th Street, N.W., Suite 900
Washington, DC 20004
Tel: 202-585-8000
Fax: 202-585-8080